**2019-2020 JPSS Proving Ground Risk Reduction Annual Plan**

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| **2019-2020 Project Information** |

**Project Title:** Optimization of phytoplankton functional type algorithms for VIIRS ocean color data in the Northeast U.S. Continental Shelf Ecosystem

**Principal Investigator:**Kimberly Hyde

**Team Members:** Colleen Mouw (University of Rhode Island), Ryan Morse (NEFSC Affiliate)

**Organization:** Northeast Fisheries Science Center; University of Rhode Island

**Stakeholders/Users:** NESDIS-STAR, NOAA Fisheries

**User Engagement:** NOAA Ocean Color Coordinating Group updates, First International Operational Satellite Symposium, Ocean Sciences 2020, Northeast Fisheries Science Center State of the Ecosystem Report, University of Rhode Island Student Seminar

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| **2019-2020 Project Summary** |

This project aims to optimize remote sensing phytoplankton functional type/size class (PFT/PSC) algorithms for the Northeast U.S. Continental Shelf for applications in fisheries management and ecosystem modeling. We will be collecting *in situ* optical and pigment data on six Ecosystem Monitoring cruises operated by the Northeast Fisheries Science Center. All available *in situ* data will then be used to validate the ocean color data (e.g. RRS and IOP products) from VIIRS and other sensors and evaluate several abundance and absorption based PFT/PSC algorithms.

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| |  | | --- | | **2019-2020 Annual Milestones** | |

*2019 - 2020 plan, schedule and milestones should build upon project proposals and allocated budget. This plan serves as a project management tool allowing PI’s to track and meet goals. Tasks are activities that need to be accomplished within a defined period of time. Tasks are broken down into milestones with defined start and end dates. A milestone is an action or event marking a significant change or stage in development.  The level of granularity is defined by individual PI. This table should be used for future quarterly reports.*

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| **Milestone** | **Planned Completion Date**  *( part of annual plan and should not change from quarter to quarter)* | | **Actual Completion** *(To be Filled out for Quarterly reports)* | **Status** *(To be Filled out for Quarterly reports)* |
| **Task 1: Field Sampling** | | | | |
| Field Sampling 3 | May – June 2019 | |  | Not started |
| Field Sampling 4 | August - September 2019 | |  | Not started |
| Field Sampling 5 | November 2019 | |  | Not started |
| Field Sampling 6 | February 2020 | |  | Not started |
| **Task 2: Laboratory Sample Analyses** | | | | |
| URI Field Data Analyses 2 | May 2019 | |  | On track |
| URI Field Data Analyses 3 | January 2020 | |  | Not started |
| URI Field Data Analyses 4 | March 2020 | |  | Not started |
| URI Field Data Analyses 5 | June 2020 | |  | Not started |
| URI Field Data Analyses 6 | October 2020 | |  | Not started |
| **Task 3: Data Analysis** | | | | |
| Satellite data processing | | Continuous throughout the project |  | On track |
| In situ data compilation | | October 2020 |  | On track |
| Preliminary algorithm validation | | January 2020 |  | On track |
| Algorithm optimization | | October 2020 |  | Not started |
| Time series analysis | | May 2021 |  | Not started |
| Modeling efforts | | January 2021 |  | Not started |
| Publication writing | | June 2021 |  | Not started |

*Add rows as needed for all annual tasks and milestones. New milestones which may arise should be added at the end of the table as needed.*

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| **Risks, Dependencies and Issues** |

*This section should include no more than the top five risks and dependencies.  Risks are the bad things that might happen. Dependencies on other projects and resources are considered risks.*

**Risk or Dependency 1:** *(State risk or issue and impact. This should be the same as in the annual plan)*

##### Issue – Due to communications issues between the program office and NEFSC, we were unaware that the year one funds received in June 2018 needed to be spent or obligated during FY’18. The result of this error was that we were not able to fund Dr. Morse for 3 months during year 1 of the project.

**Mitigation Plan:** *(This includes options and actions to reduce risks/threats. For issues, this includes plans to address impacts.)*

##### Mitigation Plan – We have spoken with Arron Layns and the PGRR program office has agreed to give us additional funds in year 3 of the project to make up for the lost funds in year 1. Dr. Morse’s work will be pushed back by approximately 6 months and will start on the project in July 2019.

**Status:** *Use the following table for quarterly reports. Mark appropriate box with an X.*

|  |  |  |  |
| --- | --- | --- | --- |
| **No Change/Open** | **Increasing** | **Decreasing** | **Closed** |
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**Risk or Dependency 2:** *(State risk or issue and impact. This should be the same as in the annual plan)*

Risk – The staff from NESDIS who collect the in-water radiometry and particulate absorption samples are unable to participate in the May 2019 cruise due to other obligations.

**Mitigation Plan:** *(This includes options and actions to reduce risks/threats. For issues, this includes plans to address impacts.)*

Mitigation Plan – Dr. Mouw’s staff will use URI’s equipment to measure in-water radiometry and collect the particle absorption samples. NEFSC will purchase the additional supplies needed to collect the absorption samples and NESDIS has agreed to process the samples in their laboratory, eliminating the need to hire additional staff at URI.

**Status:** *Use the following table for quarterly reports. Mark appropriate box with an X.*

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| **No Change/Open** | **Increasing** | **Decreasing** | **Closed** |
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**Risk or Dependency 3:** *(State risk or issue and impact. This should be the same as in the annual plan)*

##### Risk – Changes in the availability of the NOAA ships and weather could cancel or reduce the sampling plan of the Ecosystem Monitoring cruises.

**Mitigation Plan:** *(This includes options and actions to reduce risks/threats. For issues, this includes plans to address impacts.)*

##### Mitigation Plan – If an Ecosystem Monitoring cruise is canceled, we can try to piggy-back on another NOAA/NEFSC cruise if one is available.

**Status:** *Use the following table for quarterly reports. Mark appropriate box with an X.*

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| --- | --- | --- | --- |
| **No Change/Open** | **Increasing** | **Decreasing** | **Closed** |
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**Risk or Dependency 4:** *(State risk or issue and impact. This should be the same as in the annual plan)*

##### Risk – Delays in receiving complementary historical and coincident data from project partners NESDIS and WHOI.

**Mitigation Plan:** *(This includes options and actions to reduce risks/threats. For issues, this includes plans to address impacts.)*

##### Mitigation Plan – We are in contact with both NESDIS and WHOI regarding the status of their data. NESDIS is currently updating their *in situ* database and hope to add historical EcoMon cruise related data this spring/summer. At WHOI, they have prioritized the August and November 2018 EcoMon cruises for quality control verification and geolocation. Historical verified IFCB data collected in the Northeast will be shared as it becomes available.

**Status:** *Use the following table for quarterly reports. Mark appropriate box with an X.*

|  |  |  |  |
| --- | --- | --- | --- |
| **No Change/Open** | **Increasing** | **Decreasing** | **Closed** |
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| **Financial Information** |

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| **Funding Vehicle** | **Obligating Organization** | **Planned Obligation Month** | **Period of Performance** | **Funding Amount** |
| *List the name/number of the contract, grant, MOU, or other vehicle (e.g., CIMSS, Protech, etc) where the funding will be obligated. Federal equipment should be specified, if applicable.* |  |  |  |  |
| NEFSC (org code 30-21) | NEFSC | Unknown | June 2019-May 2020 | $47,797 |
| Sea Grant (org code 50-42) to URI | Sea Grant | Unknown | June 2019-May 2020 | $113,386 |
|  |  | Total FY19 Funding |  | $161,183 |

**Financial POC:** *List name, email address and phone number of POC that should receive the accounting information, must be a NOAA staff member*

NEFSC – Ann Weber, [ann.e.webber@noaa.gov](mailto:ann.e.webber@noaa.gov), 508 495-2291

Sea Grant – Chelsea Berg, [chelsea.berg@noaa.gov](mailto:chelsea.berg@noaa.gov), 231 360-7200

The NEFSC itemized budget table from the original proposal. Note, the year 2 URI budget was reduced by $5000 due to funding reduction by the program office.

